

**GOVERNMENT OF INDIA
POWER
LOK SABHA**

UNSTARRED QUESTION NO:4985
ANSWERED ON:02.09.2011
SMART SUPERGRID
Chaudhary Shri Jayant

Will the Minister of POWER be pleased to state:

- (a) whether the modernization programmes for transmission lines have hitherto not been able to keep pace with the rising consumption of electricity and achieving the targets for reduction in various types of electricity losses in the country;
- (b) if so, whether a Smart Supergrid based on High Voltage Direct Current (HVDC) connecting power stations producing cheapest electricity at locations where the sources are the cheapest will help in reducing Transmission and Distribution losses;
- (c) if so, the details thereof;
- (d) whether such Smart Supergrid technology also supports the fuller utilization of the immense potential of renewable energy available in the country; and
- (e) if so, the details of the steps taken by the Government for accelerated establishment of a national HVDC Smart Supergrid along with the time by which it is likely to be established?

Answer

THE MINISTER OF STATE IN THE MINISTRY OF POWER (SHRI K.C. VENUGOPAL)

(a) : Modernization of Transmission System is a continuous process. A number of new technologies are being integrated into the transmission system with the objective of keeping pace with power transfer requirement and reduction in losses. Losses in the inter-State Transmission System vary from 4% (plus or minus 1%) depending on the seasonal variation of generation and load. These are comparable with international standards. Losses in the distribution system are higher and the responsibility of bringing reduction of distribution losses lies with the respective State Government/Power Utilities.

(b) to (e): Smart grid is an evolving concept. For developing a road map and coordination of smart grid activities in the country India Smart Grid Task Force (ISGTF) was set up in September, 2010 under the aegis of the Ministry of Power. Five working groups have been constituted to focus on various aspects of implementation of Smart Grid in India.

The main functions of the ISGTF are to ensure awareness, coordination and integration of the diverse activities related to Smart Grid technologies, practices and services for Smart Grid Research and Development, Co-ordinate and integrate other relevant inter-governmental activities, collaborate on interoperability frame work, Review and validate the recommendations from Smart Grid Forum etc. Constitution of the ISGTF also has the focus on indigenous development of Indian Model of Smart Grid. Identification of the projects and investment requirements are yet to be finalized. The benefits perceived from Smart Grid Implementation are as under:

- (i) Smart Grid will bring the Communication, IT and Power Technologies in unison and establish a comprehensive power infrastructure.
- (ii) Demand side Management (DSM).
- (iii) Improvement in energy efficiency.
- (iv) Accommodate all generation and storage options.
- (v) Self-healing and adaptive islanding of the grid.
- (vi) Reliability improvement.
- (vii) Power quality Monitoring.

High Voltage Direct Current (HVDC) transmission also helps in reducing transmission losses. The transmission system is developed in an integrated manner consisting of both HVDC & Extra High Voltage-Alternating Current (EHV-AC) transmission network. The system facilitates transfer of power generated from all types of generation resources including renewable energy resources. The details of existing and planned HVDC transmission schemes in the country are given in Annex.